



Prüfbericht-Nr.: Test Report No.:	CN211IY7 001	Auftrags-Nr.: Order No.:	168281275	Seite 1 von 13 Page 1 of 13
Kunden-Referenz-Nr.: Client Reference No.:	N/A	Auftragsdatum: Order date:	03-03-2021	
Auftraggeber: Client:	AOK Industrial company Limited 1# Building, Sans Souci Technology Industrial Park, Shajin street, Shenzhen city, Guangdong Province, China			
Prüfgegenstand: Test item:	LED Street Light			
Bezeichnung / Typ-Nr.: Identification / Type No.:	AOK-80WiL02-NV-L3-00-3070-BN-P-T221, AOK-80WiL02-NV-L3-00-4070-BN-P-T221, AOK-80WiL02-NV-L3-00-5770-BN-P-T221, AOK-80WiL02-NV-L5-00-3070-BN-P-T221, AOK-80WiL02-NV-L5-00-4070-BN-P-T221, AOK-80WiL02-NV-L5-00-5770-BN-P-T221			
Auftrags-Inhalt: Order content:	Type examination			
Prüfgrundlage: Test specification:	IES TM-21-11 plus client's special requirements			
Wareneingangsdatum: Date of receipt:	03-03-2021	Detaillierte Fotodokumentation siehe Anlage zu diesem Bericht Detailed photo documentation see appendix to this report		
Prüfmuster-Nr.: Test sample No.:	A003022961			
Prüfzeitraum: Testing period:	12-04-2021-15-04-2021			
Ort der Prüfung: Place of testing:	Shenzhen Southern LCS Compliance Testing Laboratory Ltd.			
Prüflaboratorium: Testing laboratory:	TUV Rheinland (Shanghai) Co., Ltd.			
Prüfergebnis*: Test result*:	See following pages			
geprüft von: tested by:	Fernando Dai		genehmigt von: authorized by:	Boen Yang
Datum: 2021-05-24 Date:			Datum: 2021-05-24 Date:	
Stellung / Position:	PE		Stellung / Position:	Reviewer
Datum Date	Name / Stellung Name / Position	Unterschrift Signature	Datum Date	Name / Stellung Name / Position
Sonstiges / Others:	Tests at client's request and there is only test data available in this report and no further ratings for test result. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend 3 = satisfactory	4 = ausreichend 4 = sufficient
Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory N/A = not applicable	4 = sufficient N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.				

Copy of marking plate:

N/A

Test item

Description..... : LED Street Light

Trademark : 

Model and/or type reference : AOK-80WiL02-NV-L3-00-3070-BN-P-T221, AOK-80WiL02-NV-L3-00-4070-BN-P-T221, AOK-80WiL02-NV-L3-00-5770-BN-P-T221, AOK-80WiL02-NV-L5-00-3070-BN-P-T221, AOK-80WiL02-NV-L5-00-4070-BN-P-T221, AOK-80WiL02-NV-L5-00-5770-BN-P-T221

Factory..... : Same as applicant.

Rating(s)..... : AC 220-240V, 50/60Hz, 80W

Test case verdicts

Test case does not apply to the test object..... : N/A

Test item does meet the requirement : P(ass)

Test item does not meet the requirement : F(ail)

Testing

Date of receipt of test item : See cover page

Date(s) of performance of test..... : See cover page

Summary of testing:

1. As per client's special requirement, the test was conducted under 220V~, 50Hz. Models AOK-80WiL02-NV-L3-00-3070-BN-P-T221 (3000K) and AOK-80WiL02-NV-L5-00-3070-BN-P-T221 (3000K) were selected for the test.

2. Test place:

Shenzhen Southern LCS Compliance Testing Laboratory Ltd.

101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China

3. LED luminaire model and LED specification see below tables.

Luminaire model list:

Type	LED Driver	Rated Input	Rated wattage(W)	Rated Current(mA)	CCT
AOK-80WiL02-NV-L3-00-3070-BN-P-T221	Xi FP 110W 0.3-1.0A SNLDAE 230V C133 sXt	AC 220-240V, 50/60Hz	80W	0.4A	3000K
AOK-80WiL02-NV-L3-00-4070-BN-P-T221	Xi FP 110W 0.3-1.0A SNLDAE 230V C133 sXt	AC 220-240V, 50/60Hz	80W	0.4A	4000K
AOK-80WiL02-NV-L3-00-5770-BN-P-T221	Xi FP 110W 0.3-1.0A SNLDAE 230V C133 sXt	AC 220-240V, 50/60Hz	80W	0.4A	5700K
AOK-80WiL02-NV-L5-00-3070-BN-P-T221	Xi FP 110W 0.3-1.0A SNLDAE 230V C133 sXt	AC 220-240V, 50/60Hz	80W	0.4A	3000K
AOK-80WiL02-NV-L5-00-4070-BN-P-T221	Xi FP 110W 0.3-1.0A SNLDAE 230V C133 sXt	AC 220-240V, 50/60Hz	80W	0.4A	4000K
AOK-80WiL02-NV-L5-00-5770-BN-P-T221	Xi FP 110W 0.3-1.0A SNLDAE 230V C133 sXt	AC 220-240V, 50/60Hz	80W	0.4A	5700K

LED specification:

Type	Manufacturer	Size (mm)	I _F (mA)	V _F (V)	CCT (K)	Viewing angle (°)
LUXEON 3030 2D Line	Lumileds	3.00x3.00x0.66	120	5.8-6.6	3000K, 4000K, 5700K	116
LUXEON 5050	Lumileds	5.00x5.18x0.70	240	23.5-26.5		116

4. Test result summary as below:

Tested model	Test Result	
	Temperature (°C)	LED Drive Current (mA)
AOK- 80WiL02-NV- L3-00-3070- BN-P-T221	75.4	86.0
	TM-21 Reported L80 (hours)	
	89000	
AOK- 80WiL02-NV- L5-00-3070- BN-P-T221	74.0	44.3
	TM-21 Reported L80 (hours)	
	>90000	

Test Method

The test was conducted according to ANSI/UL 1598:2008, Section 19, the luminaire shall be installed or supported to simulate intended usage, in accordance with the manufacturer's instructions.

The ambient temperature in which measurements are being taken shall be maintained at $50^{\circ}\text{C} \pm 5^{\circ}\text{C}$.

The apparatus construction followed the description in ANSI/UL 1598 for normal temperature test. Thermocouples were placed on the LED package that the location was indicated by LM-80 report.

The temperatures shall be measured after they have stabilized, when the test has been running for a minimum of 7.5 hours or the test has been running for a minimum of 3 hours and three successive readings taken at 15 min intervals are within 1°C of one another and are not rising.

ISTMT test location according to LM80 report provided by client, for further information please see report no. IESNA LM-80 test report for LUXEON 3030 2D Line (S211e, Nov. 26, 2019) and IESNA LM-80 test report for LUXEON 5050 (S280e, Dec. 20 2019) issued by Lumileds LLC.

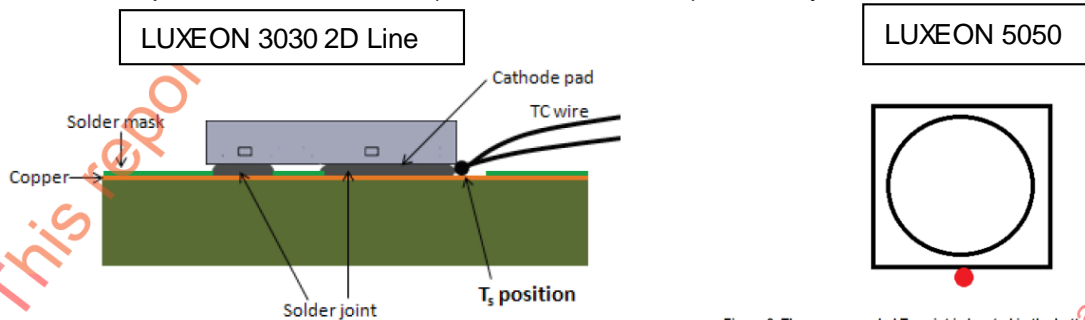
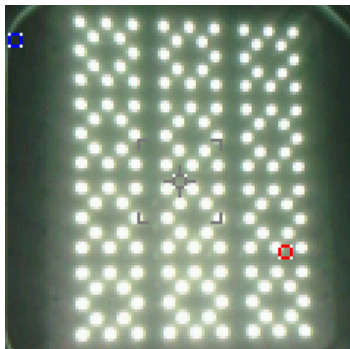
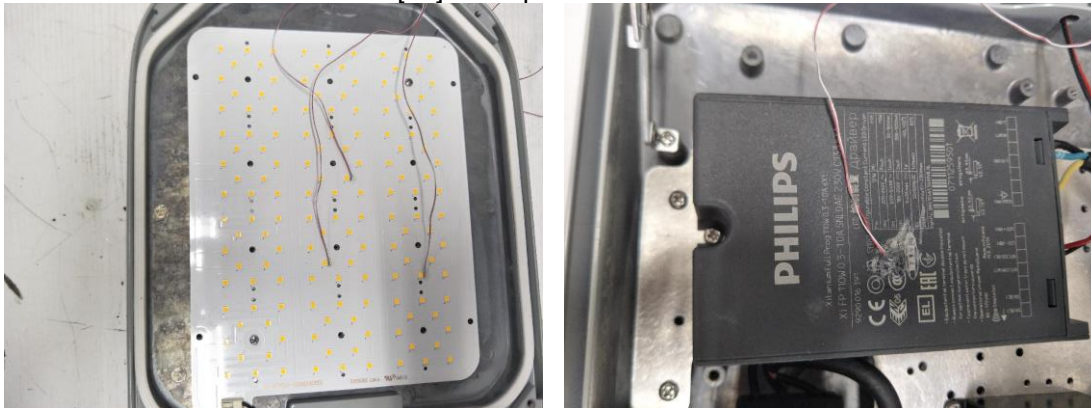


Figure 3. The recommended T_s point is located in the bottom of LUXEON 5050.

Test Result

Model	AOK-80WiL02-NV-L3-00-3070-T201-PH			
Input Voltage (V)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
220	50	0.363	0.989	79.2
Thermocouple Location	Temperature (°C)		I _F LED Drive Current (mA)	
	Tested Value		Tested Value	LM-80 Limited
LED#1	73.6		86.0	100
LED#2	75.4			
LED#3	72.9			
tc point of LED driver	75.6			
Ambient	50.0			

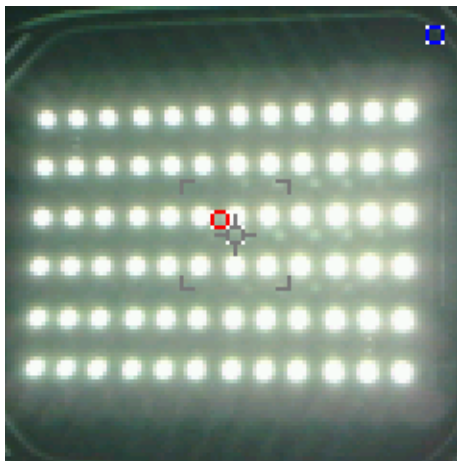
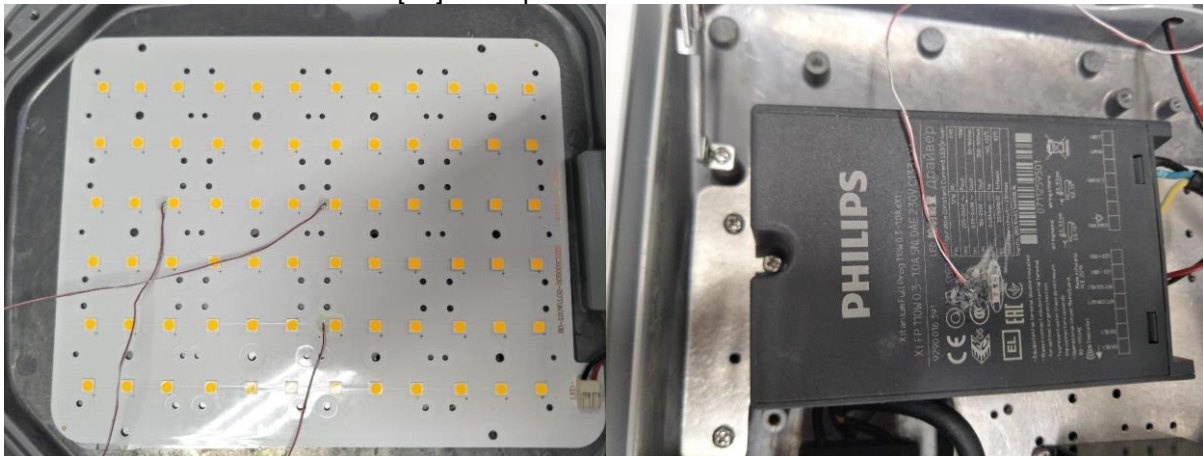
Picture of measurement Point of [Ts] in the product



Time (t) at which to estimate lumen maintenance (hours)	50000h	60000h
Lumen maintenance at time (t) (%)	88.47%	86.25%
Calculated L80 (hours)	89000	89000
Reported L80 (hours)	89000	89000

Model	AOK-80WiL02-NV-L5-00-3070-T202-PH			
Input Voltage (V)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
220	50	0. 362	0. 989	79.1
Thermocouple Location	Temperature (°C)		I _F LED Drive Current (mA)	
	Tested Value		Tested Value	LM-80 Limited
LED#1	73.2		44.3	60
LED#2	74.0			
LED#3	72.1			
tc point of LED driver	76.1			
Ambient	50. 0			

Picture of measurement Point of [Ts] in the product

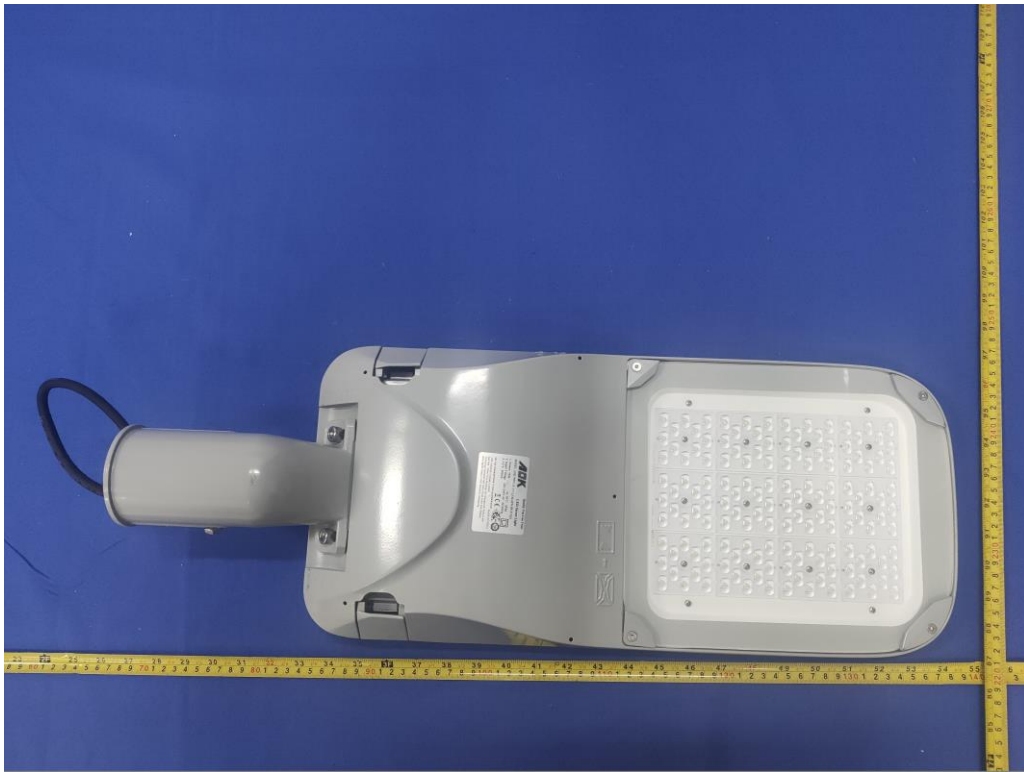


Time (t) at which to estimate lumen maintenance (hours)	50000h	60000h
Lumen maintenance at time (t) (%)	89.07%	86.86%
Calculated L80 (hours)	93000	93000
Reported L80 (hours)	>90000	>90000

Equipment List

Equipment no.	Manufactory	Model	Specification data	Uncertainty	Cal. Date	Due Date
SLCS-S-058	YOKOGAWA	WT310	0-600Vac, 0-20A, 0-6000W	ACV:0.15% ACA:0.19% AC Power:0.20% K=2	5/15/2020	5/14/2021
SLCS-S-011	OMEGA	J	0-200°C	U=0.5°C k=2	5/15/2020	5/14/2021
SLCS-S-036	AGILENT	34970A	0-500°C	U=0.2°C k=2	5/15/2020	5/14/2021
SLCS-S-081	/	/	0-300V	/		
SLCS-S-102	LONGAN	LA-201207002	25°C-75°C	U=0.5°C k=2	1/22/2021	1/22/2022
SLCS-S-066	FLUKE	Fluke15B	0~1000Vdc, 0~10A, 0~20MΩ, 700Vac	DCV:0.014% ACV:0.08% DCA:0.04% ACA:0.20% Resistance:0.02% k=2	5/15/2020	5/14/2021
SLCS-S-120	VICTOR	PC894	0.01s – 24h	Time: U=0.005s k=2	5/15/2020	5/14/2021
SLCS-S-003	Tengbo	TB-GB0903	LxWxH:2012x1805mmx1905 Distance:145~155mm, Dia.:1.97~2.00mm	U=0.1mm, k=2	5/15/2020	5/14/2021
SLCS-S-062	AINUO	AN97020TS	0-300V, 0-20kVA	VU: 0.3%, fU:0.2%, THD U:1.0%, k=2	5/15/2020	5/14/2021

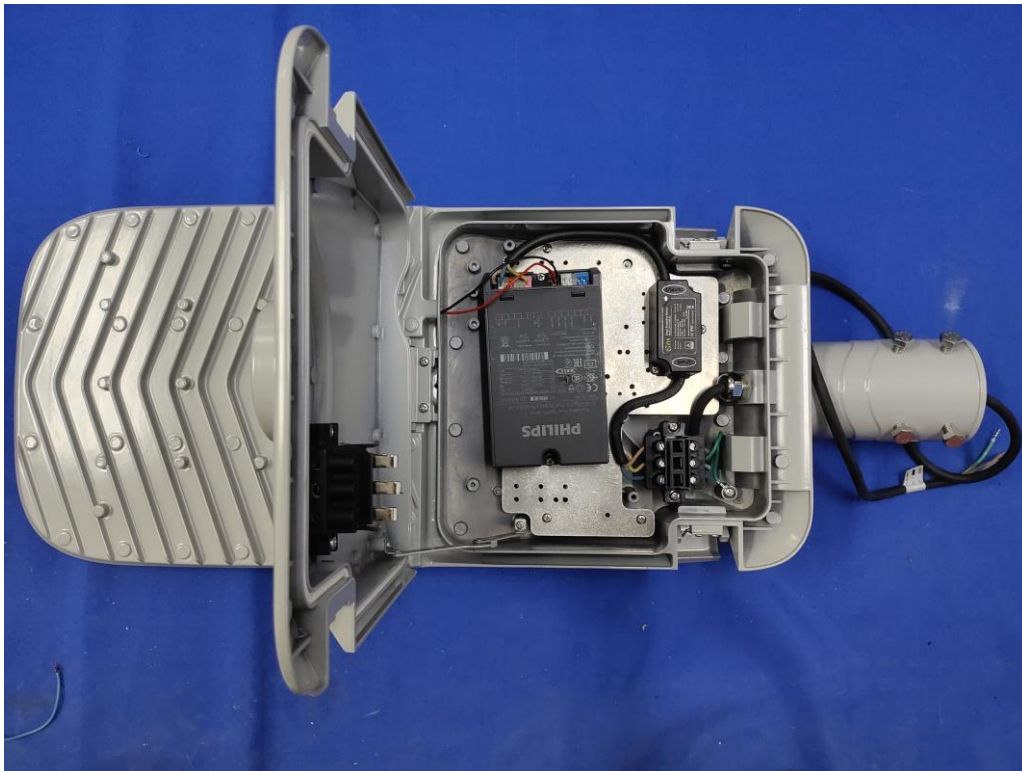
Appendix: Product Photos



Picture 1. Overall view for all models



Picture 2. Back view for all models



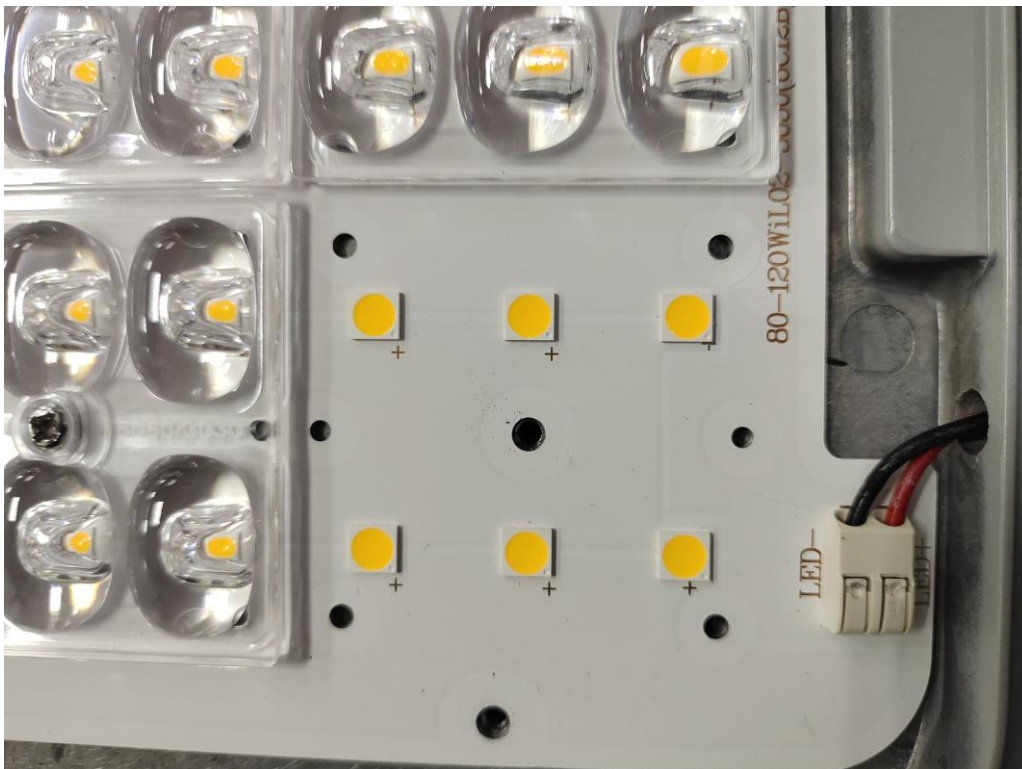
Picture 3. Internal view for all models



Picture 4. LED driver view for all models



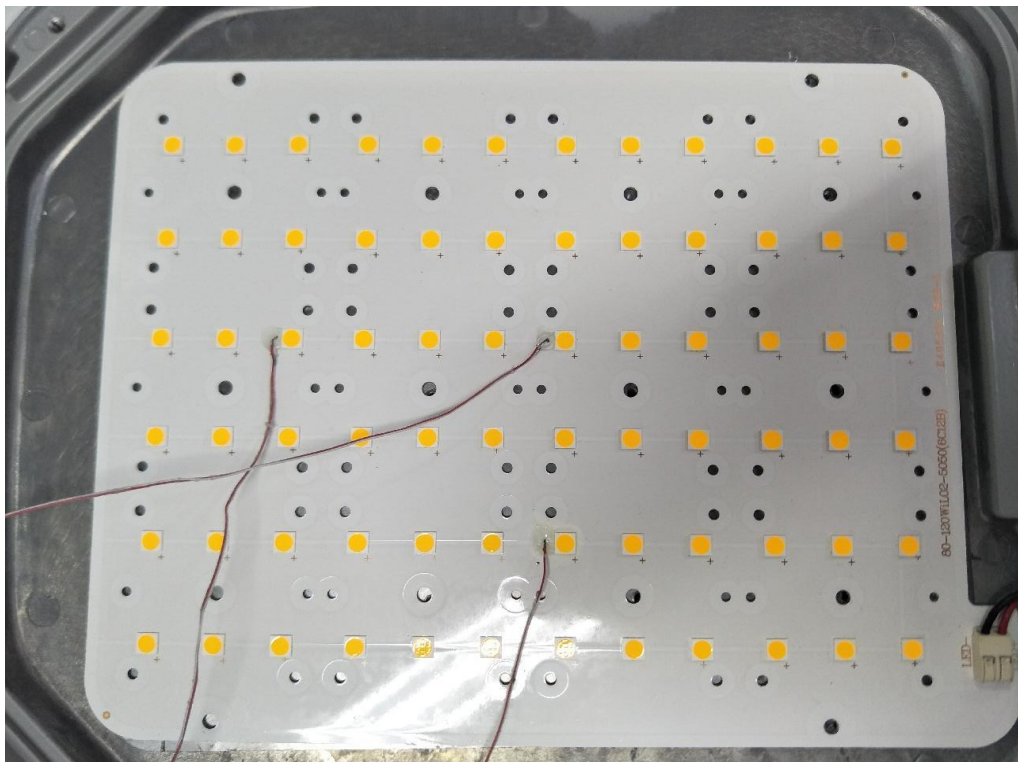
Picture 5. Surge protective device view



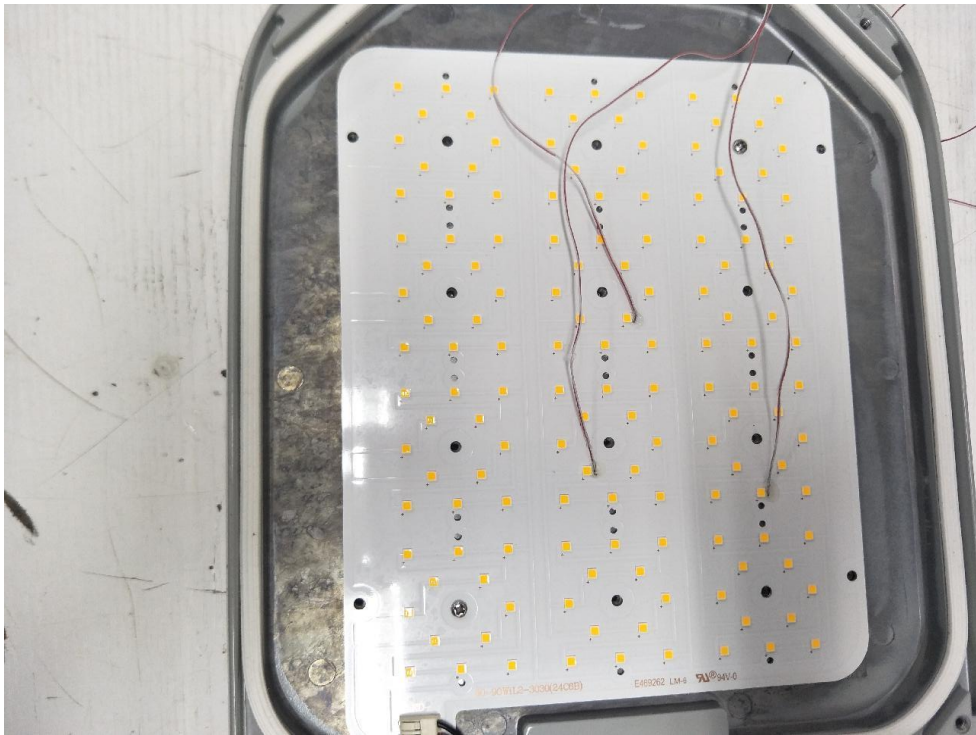
Picture 6. LED chip view of LUXEON 5050



Picture 7. LED chip view of LUXEON 3030 2D Line



Picture 8. LED module and Ts point view of AOK-80WIL02-NV-L5-00-3070-BN-P-T221



Picture 9. LED module and Ts point view of AOK-80WiL02-NV-L3-00-3070-BN-P-T221

---End of Test Report---